

REMARKS

Claims 13, 17, and 27 have been amended. Claims 13 – 24 and 27 – 31 are currently pending in the present application with claims 25, 26, and 32 being currently withdrawn.

In the Office Action, claims 13-22, 27-28, and 31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jones US Patent No. 2,923,786 in view of Takahashi JP 59-230128. Additionally, in the Office Action, claims 23-24 and 29-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jones US Patent No. 2,923,786 in view of Takahashi JP 59-230128, and further in view of Witonsky et al US Patent Application No. 2003/0147450.

Independent Claim 13 of the present application as currently amended recites a process for monitoring the temperature in a refrigerator. The process includes the steps of forming a unit from a temperature sensitive element and a thermal buffer liquid in a substantially transparent container. The temperature sensitive element is in substantially non-insulated contact with the thermal buffer liquid. The unit container is placed at a site to be monitored inside a refrigerator. The temperature sensitive element is visually observed as it is in said substantially transparent container to determine if a temperature variable property of said temperature sensitive element indicates that the temperature in the refrigerator is at, below or above a predetermined temperature range.

Independent claim 17 of the present application as currently amended recites a unit for monitoring the temperature in a refrigerator. The unit includes a container having a substantially transparent portion, the container being placeable at a site to be monitored inside the refrigerator at which site cooled air at least partially surrounds the container. As further recited in claim 17 of the present application as currently amended, the unit also includes a thermal buffer liquid in the container and a temperature sensitive element in thermal contact with the buffer liquid. The container of the inventive unit recited in claim 17 of the present application as currently amended,

when located at the site to be monitored inside the refrigerator, retains therein the buffer liquid in a manner such that the buffer liquid is not thermally isolated from the cooled air at least partially surrounding the container and is subject to variations in its temperature in correspondence with respective increases and decreases in the cooled air at least partially surrounding the container. Moreover, the temperature sensitive element is supported within the container relative to the substantially transparent portion of the container such that a user can visually observe a temperature variable property of the temperature sensitive element via the substantially transparent portion of the container to determine if a temperature in the refrigerator at a location external to the unit is at, below, or above a predetermined temperature range.

Independent Claim 27 of the present application as currently amended recites a temperature sensitive element for a unit for monitoring the temperature in a refrigerator. The unit includes a container with a thermal buffer liquid therein. The temperature sensitive element includes a body for thermal contact with the buffer liquid which is immersed to swim in the buffer liquid and has different substantially discrete values of a property which can be, in an observation event, visually observed of at least one of above or below a temperature limit to be monitored. Also, the body remains immersed in the buffer liquid during each observation event.

Favorable reconsideration of claims 13 – 24 and 27 – 31 is respectfully solicited in view of the amendment of claims 13, 17, and 27 and the following comments.

Jones '786 discloses an alarm device for use on a dial thermometer. More particularly, the device of Jones '786 is used in a refrigerator, for example, employed in storing blood, serum or other materials which must be kept within limits of a designated temperature range, and which must maintain containers containing the materials within such temperature limits. A container is filled with liquid such as water which assumes substantially the same temperature as materials in other containers. A dial thermometer having a sensing element connected thereto, such as a vessel containing gas, includes a sensing element inserted in container 13. A flexible conduit 16 connects the sensing element to the dial thermometer which is resident, as shown in Fig. 1,

outside of the refrigerator. The thermometer is of an electrically operated type in which the sensing element is a temperature-responsive electrical device such as a thermocouple connected to a suitable meter movement mounted in the cover of the thermometer housing. The meter movement is mechanically coupled to a shaft in a conventional manner to rotate a pointer indicating temperature.

Takahashi JP '128 discloses a vertical distribution meter of bath water temperature comprising one or a plurality of thermometers held in a suspended condition in bath water via a float 3. A thermometer undergoes a discoloration starting at 40 deg. C and is a complete discoloration of the thermometer occurs upon reaching 45 deg. C.

Witonsky et al US Patent Application No. 2003/0147450 discloses a temperature sensing strip 18 insulated by a space 19 from a hot liquid such as coffee. A stick is withdrawn to allow a user to take a reading of the temperature of coffee such that the reading will persist sufficiently long enough to take the reading before the sensing strip starts to cool.

The Office Action asserts that Jones '786 teaches forming a unit (combination of 13 and 15) from a temperature sensitive element and a thermal buffer liquid in a substantially transparent container (13)(Fig. 1); placing the unit container at a site to be monitored inside the refrigerator (Fig. 1); and visually observing a temperature variable property of said temperature sensitive element to determine if the temperature in the refrigerator is at, below or above a predetermined temperature range (Fig. 1; Fig. 3; C-1, L-63-73; C-2, L-1-2). However, according to the Office Action, Jones '786 does not the temperature sensitive element being in substantially non-insulated contact with the buffer liquid. In this connection, the Office Action further asserts that Takahashi JP '128 discloses a temperature sensitive element in non-insulated contact with a buffer liquid in the same field of endeavor for the purpose of sensing temperature and thus, according to the Office Action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the temperature sensitive element of

Jones '786 with the one disclosed by Takahashi JP '128 so as to have simple substitution.

Independent claim 13 of the present application recites a process for monitoring the temperature in a refrigerator, independent claim 17 of the present application as currently amended recites a unit for monitoring the temperature in a refrigerator, and independent claim 27 of the present application recites a temperature sensitive element for a unit for monitoring the temperature in a refrigerator. The rejection of independent claims 13, 17, and 27, and the rejections of the dependent claims, are premised on the ground that these claims are unpatentable over Jones '786 and Takahashi JP '128 (and, with respect to several of the claims, additionally in view of Witonsky et al US Patent Application No. 2003/0147450). However, now taking regard of claims 13, 17, and 27 of the present application as each is currently amended, it is respectfully submitted that the respective subject matters of each of claims 13, 17, and 27 of the present application each patentably define over the combination of Jones '786 and Takahashi JP '128 set forth in the Office Action.

While Jones '786 shows a sensing element located in a container within a refrigerator, its dial thermometer 14 must be observed outside of the refrigerator (namely, the temperature indicating scale is mounted on the top of the refrigerator). In contrast, each of claims 13, 17, and 27 of the present application as currently amended now more emphatically recites that the temperature sensitive element of the present invention is visually observed as it is in the thermal buffer liquid and that the thermal buffer liquid is retained at a site within the refrigerator. In view of its requirement that the dial thermometer 14 be observed outside the refrigerator, it is clear that Jones '786 would provide no basis for one of ordinary skill in the art to refer to another prior art reference, including referring to Takahashi JP '128, for a teaching or hint about a visual observation of a temperature sensitive element within a refrigerator.

Moreover, even if one of ordinary skill in the art were to combine Jones '786 with another prior art reference such as, for example, Takahashi JP '128, the resulting combination would still fail to teach or disclose the respective subject matters of each of

claims 13, 17, and 27 of the present application. For example, claim 17 of the present invention recites that the temperature sensitive element is supported within the container relative to the substantially transparent portion of the container such that a user can visually observe a temperature variable property of the temperature sensitive element via the substantially transparent portion of the container to determine if a temperature in the refrigerator at a location external to the unit is at, below, or above a predetermined temperature range. In contrast, the vertical distribution meter of Takahashi JP '128 is configured to indicate a temperature of the bath water itself, not a temperature of a location external to the bath water.

For these and other reasons, Jones, Takahashi JP '128, and Witonsky, either alone or in combination, do not teach or suggest the subject matter defined by independent claims 13, 17, and 27. Claims 14-16, 18-24, and 28-31 depend from the previously referenced independent claims and are allowable for the same reasons, and also because they recite additional patentable subject matter.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 13 – 24 and 27 – 31 and favorable consideration of withdrawn claims 25, 26, and 32 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted



James E. Howard

Registration No. 39,715

April 14, 2009

BSH Home Appliances Corporation
100 Bosch Blvd.
New Bern, NC 28562
Phone: 252-639-7644
Fax: 714-845-2807
james.howard@bshg.com